REMARKS

This is intended as a full and complete response to the Final Office Action dated August 11, 2005, having a shortened statutory period for response set to expire on November 11, 2005. Applicants submit this response to place the application in condition for allowance or in better form for appeal. Please reconsider the claims pending in the application for reasons discussed below.

In the specification, paragraphs [0002], [0011], [0033], [0035], [0039], [0040], [0058] and [0061] have been amended to correct minor editorial problems. Applicants submit that the amendments do not introduce new matter.

Claims 1-36 are pending in the application. Claims 1-36 remain pending following entry of this response.

Specification

The Examiner notes the use of the trademark "Java" in this application and states that it should be capitalized wherever it appears and be accompanied by the generic terminology. Applicants have amended the specification to respond to the Examiner's concern.

Claim Rejections - 35 U.S.C. § 112

Claims 1, 12, 16, 20 and 32 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.

Specifically, the Examiner takes issue with the following limitation recited by claims 1, 12, 16, 20 and 32: "wherein optimized version of source code corresponds to an original version of the source code." From the rejection:

> "The amended claim language recites that the optimized version of source code 'corresponds to an original version of the source code,' but the specification discloses that the optimized source code 'represents' the original source code (para. [0042]). A common dictionary meaning of 'correspond' is: to be compatible, similar or consistent; coincide in their characteristics. Whereas a common dictionary meaning of 'represent' is: To be the equivalent of, or to serve as an example of 'Correspond' has a

> tighter meaning than 'represent.' Therefore, it is not clear what the optimized version of source code actually is."

See Final Office Action, p. 3. However, in the first paragraph of the detailed description, the specification provides "an optimized source code is generated for an original source code." *Specification*, ¶ 25. This concept is echoed throughout the specification. As the optimized source code is "generated for" the original source code, does the Examiner mean to suggest that the original version and optimized versions do not correspond to one another? Or that how they correspond to one another is unclear? If so, Applicants submit this position is not supported by the specification. Figures 3A – 3F illustrate examples of original versions of source code side-by-side with a corresponding optimized version. Moreover, another "common dictionary meaning" for "correspond" includes: "to be similar or equivalent in character, origin, or structure." *See The American Heritage Dictionary of the English Language*, Fourth Edition. The examples shown in Figures 3A – 3F clearly illustrate the similar "character," "origin," and "structure" of the original version of the source code and the corresponding optimized version of the source code.

Further, the independent claims characterize that the "optimized version of the source code" corresponds to the "original version," as being "modified to reflect an optimization in the optimized object code." Thus, the claims expressly spell out the nature of the correspondence between the original version and optimized version of the source code; namely, that the optimized version includes modifications to the original source code to reflect the optimizations. Based on the foregoing, Applicants respectfully submit that the present claims comply with 35 U.S.C. § 112, and therefore, request that the rejection be withdrawn.

Claim Rejections - 35 U.S.C. § 103

Claims 1, 3, 4, 6, 20, 23, 24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Greyzck et al.*, U.S. Patent 5, 361, 354 (hereinafter referred to as *Greyzck*), in view of *Brandes*, U.S. Patent 5,946,484. Applicants respectfully traverse this rejection.

The Examiner bears the initial burden of establishing a *prima facie* case of obviousness. *See* MPEP § 2142. To establish a *prima facie* case of obviousness three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one ordinary skill in the art, to modify the reference or to combine the reference teachings. Second, there must be a reasonable expectation of success. Third, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *See* MPEP § 2143. The present rejection fails to establish at least the first and third criteria.

That the Examiner has maintained the rejection based on these two references is puzzling. First, the Examiner's assertion that "one would be motivated to combine the optimization techniques of *Greyzck* in a compiling function in order to avoid massive rewrites of old code as taught by *Brandes* at column 1, lines 9-31," *see Final Office Action*, p.4, is, respectfully, non-sensical. The claims of the present Application are in no way directed to avoiding "rewrites of old code" massive or otherwise. Quite the contrary, the present claims are directed to displaying compiler optimized source code, and no rewriting of old code is contemplated, or required, to practice the invention recited by the present claims. Moreover, it is not at all clear how combining "optimization techniques" in a "compiling function" with the source code recovery techniques disclosed in *Brandes* would avoid "massive rewrites of old code" in any event.

Regardless, *Greyzck*, in view of *Brandes* fails to disclose the recited limitation of "generating, from optimized object code, the optimized version of source code, wherein the optimized version of source code corresponds to an original version of the source code, modified to reflect an optimization in the optimized object code." The Examiner appears to recognize this shortcoming: "The decompiled code in the applied art as cited in the office action would indeed have a 'relationship' to, and even a 'correspondence' to, *in a broad sense of the term*, the original source code even though it would not be identical to, or reproduce a one-to-one relationship with the parts of the source code that were not optimized." See Final Office Action, p.18 (emphasis added).

Having some abstract relationship "in a broad sense of the term," however, is inadequate. Claims 1 and 20 specifically recite both an "original version of the source code" and corresponding "optimized version of the source code." The claims further recite, that the "optimized version of the source code" corresponds to the "original version," as being "modified to reflect an optimization in the optimized object code." In contrast, a portion of the material from *Brandes* cited by the Examiner discuses a technique of analyzing "assembler code" for "code patterns" that have an available "source language command structure." There is no means to detect whether or how any particular "assembler code" has been the subject of an optimization. See *Brandes* 1:39-50.

Moreover, the act displaying the "source language command structure" that would be generated for fragments of assembler code that matched a "code pattern," using the techniques of *Brandes*, fails to disclose the recited step of "visually distinguishing changes to the original version of the source code in accordance to a compiler optimization, relative to the optimized version," as recited by claims 1 and 20. Rather, using the techniques of *Brandes,* source code consistent with the "source language command structure" of a given "code pattern" would be displayed, if a pattern was available in a particular case. The "source language command structures," of *Brandes*, however, would fail to provide any indication of how the source code was modified, relative to "an optimization in the optimized object code." Rather, it would display the particular "source language command structure" provided for the pattern. Accordingly, independent claims 1, 20, and dependent claims 3, 4, 6, 23, 24 and 26 are believed to be allowable, and allowance of the same is respectfully requested.

Claims 8, 9, 12, 14-16, 18, 19, 28, 29, 32, 35 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Greyzck* in view of *Brandes*, as applied to claim 1 above, and further in view of *Percival et al.*, US Patent 6,226,652 (hereinafter referred to as *Percival*). Applicants respectfully traverse this rejection.

For all the reasons given above, Applicants submit that *Greyzck*, in view of *Brandes* fails to disclose decompiling the optimized object code to produce an optimized

version of the source code, wherein the optimized version of source code corresponds to an original version of the source code, modified to reflect an optimization in the optimized object code, in the manner recited by claims 12, 16, and 32. Similarly, for all the reasons given above, Applicants submit that the combination fails to disclose displaying the optimized source code and the original source code to visually indicate a change to the original source code as a result of the optimizing, in the manner recited by these claims. Accordingly, independent claims 12, 16, 32, and dependent claims 8, 9, 14, 15, 18, 19, 28, 29, 35 and 36 are believed to be allowable, and allowance of the same is respectfully requested.

Claims 2, 13, 17, 21, 22, 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Greyzck* in view of *Brandes*, as applied to claims 1 and 20 above, and further in view of *IBM Technical Disclosure Bulletin NN9305305* (hereinafter referred to as *IBM_TDB*).

Claims 2, 13, 17, 21, 22, 33 and 34 depend from one of independent claims 1, 12, 16, 20 and 32. As Applicants submit that because *Greyzck*, in view of *Brandes* fails to teach or suggest the recitations of these independent claims, for the reasons stated above, the rejection of claims 2, 13, 17, 21, 22, 33 and 34 is obviated without the need for further remarks.

Claims 5, 7, 25 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Greyzck* in view of *Brandes*, and further in view of *Mattson, Jr. et al.*, U.S. Patent 6,430,741 (hereinafter referred to as *Mattson*).

Claims 5, 7, 25, and 27 depend from one of independent claims 1 and 20. As Applicants submit that because *Greyzck*, in view of *Brandes* fails to teach or suggest the recitations of these independent claims, for the reasons stated above, the rejection of claims 5, 7, 25, and 27 is obviated without the need for further remarks. Therefore, these claims are believed to be allowable, and allowance of these claims is respectfully requested.

Claims 10, 11, 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Greyzck* in view of *Brandes*, as applied to claim 1, and further in view of *Shrader et al.*, U.S. Patent Application Publication US 2003/0005349 (hereinafter *Shrader*). Applicants respectfully traverse this rejection.

Shrader was first published on Jan, 2, 2003. The present application was filed on July 30, 2001. Thus, *Shrader* is available as a reference only under 35 U.S.C. § 102(e). *Shrader* and the present invention, at the time the present application was made, owned by the same entity, or subject to an obligation of assignment to the same entity, as shown in a Statement of Common Ownership submitted herewith. Under 18 U.S.C. § 103(c), the Statement of Common Ownership removes *Shrader* as a reference available to the Examiner. Therefore, Applicant respectfully requests that the rejection based upon *Shrader* be withdrawn and that claims 10, 11, 30 and 31 and 36 be allowed.

Conclusion

Having addressed all issues set out in the office action, Applicants respectfully submit that the claims are in condition for allowance and respectfully request that the claims be allowed.

If the Examiner believes any issues remain that prevent this application from going to issue, the Examiner is strongly encouraged to contact Gero McClellan, attorney of record, at (336) 643-3065, or the undersigned attorney to discuss strategies for moving prosecution forward toward allowance.

Respectfully submitted,

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Barsness et al.

Serial No.: 09/917,958

Confirmation No.: 9346

Filed: July 30,2001

For: METHOD AND APPARATUS FOR DISPLAYING COMPILER-OPTIMIZATED CODE

Group Art Unit: 2193

Examiner: Lawrence J. Shrader

MAIL STOP AMENDMENT
Commissioner for Patents
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Dear Sir:

CERTIFICATE OF MAILING OR TRANSMISSION

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450, or facsimile transmitted to the U.S. Patent and Trademark Office to fax number 571-273-8300 to the attention of Examiner Lawrence J. Shrader, on the date shown below:

October 11, 2005 — Date

Randol Read

STATEMENT OF COMMON OWNERSHIP RE: SHRADER

The present application (Serial No. 09/917,958 hereinafter the "Application") and United States Patent Application, Publication No. 2003/0005349 were, at the time the invention of the Application was made, owned by the same entity, or subject to an obligation of assignment to the same entity.

Respectfully submitted,

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